

**DATE:** April 7, 2003, Revised April 8, 2003, Revised July 28, 2003

**TO:** Basis of Estimate Handbook Users

**FROM:** David Duncan, CES Coordinator

**E-COPY:** Ken Morefield, Freddie Simmons, Bill Albaugh, Robert Greer, Phillip “Greg” Davis, William Nickas, Duane Brautigam, Brian Blanchard, Sharon Holmes, Ananth Prasad, Bruce Dietrich, District Design Engineers, District Project Management Engineers, District Structures Design Engineers, District Construction Engineers, District Pavement Design Engineers, and District Specifications Engineers

**SUBJECT:** **2003 Mid Year Update Basis of Estimate Handbook Electronic Edition - Summary of Major Changes**

The Coordination Team made recommendations for the implementation of changes to pay items and specifications that have been developed within the last six months. The implementation plan for each issue has been approved by the appropriate office and concurred to by the Directors of both the Office of Design, and Highway Operations. A detailed description of each of these changes and their implementation date is attached. The following is a summary of issues addressed in this update:

<b>Group</b>	<b>Issue Description</b>	<b>Effective Letting</b>	<b>Page No.</b>
MOT (Structures)	Temporary Precast Concrete Traffic Railing Barrier on Bridges	January 2004	3 - 4
MOT	Vehicular Impact Attenuators (Temporary)	January 2004	5 - 6
Pavement Design	Obsolete Pay Items - Pavement	January 2004	7 - 8
Drainage	Obsolete Pay Items - Drainage	January 2004	9 - 10
ADA	Applied Detectable Warning Device on Curb Ramp	July 2003	11 - 12
Structures	Sound Barriers (Including Foundation) <b>Revised pay item April 8, 2003</b>	January 2004	13 - 14
Pavement Markings	Painted Pavement Markings (Final Surface and MOT) <b>Revised notes July 28, 2003</b>	January 2004	15 - 17

### **General Notices:**

#### **Design Update Training**

Design update training will be offered this fall at various locations around the state. The Roadway Design Office web page at <http://www11.myflorida.com/rddesign/training/training.htm> will provide additional information and registration when final arrangements have been made.

### **Specifications Office**

The State Specifications Office is pleased to announce the printing of a new and updated specifications book, the Florida Department of Transportation Standard Specifications for Road and Bridge Construction, 2004 edition. The new book, which will also include a CD inside the cover, is currently in publication and will be available from FDOT Maps and Publications by June 2003. An initial distribution will also be made to District Offices at that time. The new 2004 Standard Specifications for Road and Bridge Construction will take effect with the January 2004 letting.

The Product Evaluation and State Specification Offices, are pleased to call your attention to "The New Look QPL", now available through the State Specifications Office web site, or by direct access at the following URL address:

<http://www11.myflorida.com/specificationsoffice/qplnew/default.htm>

A good definition of the QPL (Qualified Products List) would be: **The QPL is a List of Pre-Approved Products That May Be Relied Upon as Meeting FDOT Specifications, Standards or Other Specified Criteria.** The "New Look QPL" is designed to reinforce this fundamental concept by making direct references to those specific criteria as the basis of approval. We hope you like "The New Look QPL" and, more importantly, we hope it is easier for you to use and understand. Watch for even more enhancements, coming soon.

### **Structures Office**

All overhead sign structures, excluding mast arms, and all high mast light poles will be required to have a Structure ID number shown in the plans beginning with the July 2004 letting. Structures ID numbers may be shown earlier if project schedules allow. To obtain the Structure ID number for these items, follow the same procedure currently used to obtain ID numbers for bridges. The ID number does not need to be entered into Trns-port. The Structure ID number should be used to reference the sign and show the location on plans in lieu of the current sign designation numbers. The Plans Preparation Manual (PPM) is being updated to reflect this change.

### **Additional Information for the Handbook Holders:**

BOE handbook is published on line at <http://www11.MyFlorida.com/estimates>

Please register on-line to be notified via e-mail when the Basis of Estimate Handbook is updated. These announcements will be distributed every 6 months, or as necessary. Users will have the option to add/delete their address for future updates.

## ***Effective with the January 2004 Letting***

### ***Issue: Temporary Precast Concrete Traffic Railing Barrier on Bridges***

**History:** The Department is issuing a new standard for temporary barriers (Barrier Wall (Temporary) Type K) for use on bridges and retaining wall sections to shield work zone hazards (Structures Standard Index No. 715). Beginning with the January 2004 letting, all bridge projects utilizing temporary traffic railings must use this new standard for all situations (drop off protection, traffic separation, etc.). The new standard will be available July 1, 2003 on the Structures Design Website. Design Standard Index 415 will no longer be applicable for use on bridge decks. However, Design Standard Index 415 (Barrier Wall (Temporary) Concrete) will continue to be applicable for use on roadways.

The Type K Barrier Wall is an F-shape, pin and loop system that meets NCHRP 350 Test Level 3 criteria. Unlike the current Index 415 Barrier, the contractor will not have the option to use the New Jersey Shape. The new Standard will include a method to anchor to bridge decks that significantly reduces the deflection space needed behind the barrier. The quantity of this item must include a transitional length between the bridge and temporary roadway barriers or crash cushions in accordance with the details in the new Structures Standard. Details will be provided for transitioning from the Type K Barrier Wall on a bridge to the Index 415 Barrier Wall on the adjoining roadway. The transition from an anchored Type K Barrier on the bridge to the freestanding condition on roadways will include Type K Barrier Wall sections that are "pinned" to the pavement. For now, this pinned configuration in pavements is restricted for use only in the transition section. The Department has a research project underway to further develop and test the pinned configuration in pavements to ultimately allow for this system to be used where deflection space is limited on roadways. This research will take approximately one year.

On roadways, freestanding Type K Barrier Wall may be substituted where the Index 415 Barrier Wall is called for, however, where the Type K Barrier Wall is called for in plans, substitution with the Index 415 Barrier Wall will not be permitted.

### ***Implementation Plan:***

#### **Central Office Design:**

The current pay item structure has already been revised to include:

102- 71-XAB	Barrier Wall (Temporary)	LF
2102- 71-XAB	Barrier Wall (Temporary)	MI
B=	4 (Type K)	

**District Design:** Update Trns-port files and plans to indicate the use of the new pay item and standards on appropriate projects beginning with the January 2004 letting.

**Specifications:** Specifications will be available for the January 2004 letting.

**Construction:** Substitution with Index 415 Barrier will not be allowed in Construction when-Type K Barrier is called for in the plans.

**Structures Contact Person -** Robert Robertson 850-414-4267 SC 994-4267

***Approved:*** William N. Nickas \_\_\_\_\_ Date \_\_\_\_\_  
State Structures Design Engineer

***Approved:*** Brian Blanchard \_\_\_\_\_ Date \_\_\_\_\_  
State Roadway Design Engineer

***Approved:*** Ananth Prasad \_\_\_\_\_ Date \_\_\_\_\_  
State Construction Engineer

***Approved:*** Phillip “Greg” Davis \_\_\_\_\_ Date \_\_\_\_\_  
State Estimates Engineer

***Approved:*** Sharon Holmes \_\_\_\_\_ Date \_\_\_\_\_  
State Maintenance Engineer

***Approved:*** Duane F. Brautigam \_\_\_\_\_ Date \_\_\_\_\_  
State Specifications Engineer

***Effective with the January 2004 Letting***

***Issue:                      Vehicular Impact Attenuators (Temporary)***

***History:*** The Department has decided to block all proprietary pay items for vehicular impact attenuators used in a temporary application. All redirective crash cushions used in a temporary application will be paid for as:

102-89-7 Vehicular Impact Attenuators (Temporary) Redirective

This allows the contractor to use a crash cushion of his choosing at each location subject to the uses and limitations identified in the Design Standards. If during the design process, it is determined that a specific proprietary crash cushion must be used at a particular location, this information should be identified in the plans using a pay item note, and the reasons documented in the project design file.

***Implementation Plan:***

**Central Office Design:**

Permanently block the following pay items December 31, 2003:

102-89-XXA Vehicular Impact Attenuators (Temporary) LO

- |    |    |           |
|----|----|-----------|
| A= | 1) | Great CZ  |
|    | 2) | React 350 |
|    | 4) | Quadguard |
|    | 5) | Adiem 350 |
|    | 6) | Tracc     |
|    | 8) | TAU-II    |

**District Design:**      Update plans and Trns-port files on applicable projects beginning with the January 2004 letting.

**Design Contact Person** -      Cheryl Adams      850-414-4327      SC 994-4327

***Approved:***    Brian Blanchard      \_\_\_\_\_ Date \_\_\_\_\_  
State Roadway Design Engineer

***Approved:***    William N. Nickas      \_\_\_\_\_ Date \_\_\_\_\_  
State Structures Design Engineer

***Approved:***    Ananth Prasad      \_\_\_\_\_ Date \_\_\_\_\_  
State Construction Engineer

*Approved:* Phillip “Greg” Davis \_\_\_\_\_ Date \_\_\_\_\_  
State Estimates Engineer

*Approved:* Sharon Holmes \_\_\_\_\_ Date \_\_\_\_\_  
State Maintenance Engineer

*Effective with the January 2004 Letting*

**Issue:** *Obsolete Pay Items – Pavement*

**History:** Marshall mix designed asphalt mixes have been phased out. FDOT Pavement Policy Committee directed that Superpave (Type SP) shall be used in place of Type S structural asphalt on all projects beginning with pavement designed in 1998. Asphalt Rubber Membrane Interlayer has replaced the use of Bituminous Surface Treatment applications.

### ***Implementation Plan:***

### Central Office Design:

Permanently block the following pay items December 31, 2003:

310- 1	Cover Material for Single Surface Treatment	CY
2310- 1	<i>Cover Material for Single Surface Treatment</i>	<i>M3</i>
312- 70	Cover Material for Crack Relief Layer	SY
2312- 70	<i>Cover Material for Crack Relief Layer</i>	<i>M2</i>
331- 2	Type S Asphaltic Concrete	TN
2331- 2	<i>Type S Asphaltic Concrete</i>	<i>MT</i>
332- 2-XXA	Type II Asphaltic Concrete	TN
2332- 2-XXA	<i>Type II Asphaltic Concrete</i>	<i>MT</i>
335- 2-XXA	Sand-Asphalt Hot Mix	TN
2335- 2-XXA	<i>Sand-Asphalt Hot Mix</i>	<i>MT</i>

**District Design:** Update plans and Trns-port files on applicable projects beginning with the January 2004 letting.

**Specifications:** Specifications supporting these pay items will no longer be available after the December 2003 letting.

**Pavement Design Contact Person - Emmanuel Uwaibi 850-414-4372 SC 994-4372**

**Approved:** Bruce Dietrich \_\_\_\_\_ Date \_\_\_\_\_  
State Pavement Design Engineer





*Effective with the January 2004 Letting*

**Issue:** *Obsolete Pay Items - Drainage*  
*Edgedrain Mat, Edgedrain Mat Outlet Pipe, Cast Iron Pipe for Roof Drain*

**History:** In preparation for printing the next specifications book the Specifications Office has identified specifications and/or pay items that are no longer used by the Department. Edgedrain mat items have been replaced by the use of edgedrain (Draincrete). Refer to the drainage manual and applicable standards for replacement items.

**Implementation Plan:**

### Central Office Design:

Permanently block the following pay items December 31, 2003:

441- 74-XXA	Edgedrain Mat	LF
<i>2441- 74-XXA</i>	<i>Edgedrain Mat</i>	<i>MI</i>
441- 75-XXA	Edgedrain Mat Outlet Pipe	LF
<i>2441- 75-XXA</i>	<i>Edgedrain Mat Outlet Pipe</i>	<i>MI</i>
445- 1-XXA	Cast Iron Pipe for Roof Drain	LF
<i>2445- 1-XXA</i>	<i>Cast Iron Pipe for Roof Drain</i>	<i>MI</i>

**District Design:** Update plans and Trns-port files on applicable projects beginning with the January 2004 letting.

**Specifications:** Specifications supporting these pay items will no longer be available after the December 2003 letting.

**Drainage Contact Person** - David Powell 850-414-4354 SC 994-4354

**Approved:** Rick Renna \_\_\_\_\_ Date \_\_\_\_\_  
State Drainage Engineer

**Approved:** Brian Blanchard \_\_\_\_\_ Date \_\_\_\_\_  
State Roadway Design Engineer

**Approved:** Phillip “Greg” Davis \_\_\_\_\_ Date \_\_\_\_\_  
State Estimates Engineer

**Approved:** Duane F. Brautigam \_\_\_\_\_ Date \_\_\_\_\_  
State Specifications Engineer

***Effective with the July 2003 Letting***

***Issue:           Applied Detectable Warning Device on Curb Ramp***

***History:***       Federal ADA regulations require truncated domes as a detectable warning on curb ramps. A new developmental pay item and developmental specification have been established for use to retrofit existing curb ramps that otherwise meet ADA requirements. (This pay item is for applied device on existing ramps only.) This item is intended to coordinate with Design Standard Interim Index 304.

Applied detectable warning devices are to be used **ONLY** on curb ramps constructed on **PREVIOUS** projects that did not incorporate a detectable warning during the original construction of the ramp. Existing curb ramps may require some cleaning or treatment prior to installing the applied detectable warning device.

Please note, prior to calling for the 'applied detectable warning device', it must be verified that the curb ramp meets all other requirements of the ADA (1:12 max. running slope, 1:50 max. cross-slope, min. 36" top landing, 1:12 max. transition slopes, etc.) If all of these requirements are not met, the ramp must be demolished and rebuilt, at which point the appropriate method would be stamping the truncated domes pattern into the wet concrete, and payment included in the cost of the new ramp.

Interim Index 304 also addresses truncated domes as a detectable warning when constructing and/or reconstructing curb ramps (cost included in the cost of sidewalks).

***Implementation Plan:***

**Central Office Design:**

Establish the following new pay items January 2003:

903-527-1	Applied Detectable Warning Device on Curb Ramps (Retrofit)	EA
2903-527-1	<i>Applied Detectable Warning Device on Curb Ramps (Retrofit)</i>	<i>EA</i>

**District Design:**       Update plans and Transport files on applicable projects beginning with the July 2003 letting.

**Specifications:**       Developmental Specifications are currently available. Contact the District Specifications Office for coordination.

**Structures Contact Person -**       Dean Perkins       850-414-4359       SC 994-4359

***Approved:***   William N. Nickas       \_\_\_\_\_ Date \_\_\_\_\_  
State Structures Design Engineer

***Approved:*** Brian Blanchard \_\_\_\_\_ Date \_\_\_\_\_  
State Roadway Design Engineer

***Approved:*** Phillip “Greg” Davis \_\_\_\_\_ Date \_\_\_\_\_  
State Estimates Engineer

***Approved:*** Ananth Prasad \_\_\_\_\_ Date \_\_\_\_\_  
State Construction Engineer

***Approved:*** Sharon Holmes \_\_\_\_\_ Date \_\_\_\_\_  
State Maintenance Engineer

***Approved:*** Duane F. Brautigam \_\_\_\_\_ Date \_\_\_\_\_  
State Specifications Engineer

## *Effective with the January 2004 Letting*

### **Issue:                      Sound Barriers**

**History:** The Department is issuing new standards for Sound Barriers. The standards will include the precast concrete sound barrier panels currently contained in the Structures Standards as well as approved proprietary panels that meet criteria contained in the Structures Design Office's Bridge Manual. Designers must specify, on an accompanying semi-standard, the aesthetic criteria for the project and the approved vendors/products that meet the aesthetic criteria. Based on the panel type chosen by the contractor, the spacing of the columns will be determined. Due to the unknown number of columns at the time of design the cost of the auger cast piles will be included in the unit price of the wall and will no longer be paid for separately.

The new sound barrier standards will be available July 1, 2003 on the State Structures website: <http://www11.myflorida.com/structures/CADD/standards/CurrentStandards/standardspreface.htm>

Sound barriers to be placed on bridges or MSE wall sections are not covered by this new standard or these pay items. Sound barriers in these locations have separate standards and pay items.

### ***Implementation Plan:***

#### **Central Office Design:**

Establish the following new pay items May 2003:

<del>534- 73-XXA</del> <b>534- 72-1AA</b>	Sound Barriers (Including Foundation)	SF
<del>2534- 73-XXA</del> <b>534- 72-1AA</b>	<i>Sound Barriers (Including Foundation)</i>	<i>M2</i>
a=	<b>01</b> (Permanent Wall)	
	<b>02</b> (Temporary Wall)	

Permanently block the following pay items December 30, 2003

534- 72-XXA	Noise Barrier Wall	SF
2534- 72-XXA	<i>Noise Barrier Wall</i>	<i>M2</i>

**District Design:**            Update plans and Trns-port files to indicate the use of the new pay items and standards on appropriate projects beginning with the January 2004 letting. Verify that item 455-112 Auger Grouted Piles, is not included with Sound Barriers.

**Specifications:**            Specifications will be available for the January 2004 letting

**Structures Contact Person -**            Robert Robertson      850-414-4267    SC 994-4267

***Approved:*** William N. Nickas \_\_\_\_\_ Date \_\_\_\_\_  
State Structures Design Engineer

***Approved:*** Ananth Prasad \_\_\_\_\_ Date \_\_\_\_\_  
State Construction Engineer

***Approved:*** Phillip “Greg” Davis \_\_\_\_\_ Date \_\_\_\_\_  
State Estimates Engineer

***Approved:*** Sharon Holmes \_\_\_\_\_ Date \_\_\_\_\_  
State Maintenance Engineer

***Approved:*** Duane F. Brautigam \_\_\_\_\_ Date \_\_\_\_\_  
State Specifications Engineer

## *Effective with the January 2004 Letting*

### **Issue:        *Painted Pavement Markings (Final Surface and MOT)***

**History:**        The Department has worked closely with Industry to reduce paperwork and requirements for inspectors to field measure painted pavement marking items during construction. Because plans contain sufficient detail on final surface painted pavement markings and the quantities shown are fairly accurate, it was agreed that ALL final painted pavement markings applied to the final surface, including Retro-reflective Pavement Markers, would be paid for as Lump Sum. The new lump sum pay item will include the cost of two (2) applications of all painted pavement markings and one (1) application of Retro-reflective Pavement Markers. This information will be covered in the specifications.

Because painted pavement markings used for Maintenance of Traffic cannot be accurately estimated, it was decided to continue paying for these items with traditional painted pavement marking pay items (710 pay items for Paint and 102-78 for Temporary Reflective Pavement Markers).

### **FOR TRADITIONAL LET PROJECTS (WITH STANDARD BID ITEMS):**

Two applications of all final painted pavement markings and one application of Retro-reflective Pavement Markers (RPM) will be paid for under the new pay item:

710-90            Painted Pavement Markings (Final Surface)            LS

The Designer should show the following in the plans for traditional bid item projects:

- **Signing and Marking Plans – Tabulation of Quantities Sheet(s) -**
  - Continue to tabulate and show the detailed description of the pay item and the quantities for each pay item EXCEPT in lieu of the pay item number substitute an “\*” in the Bid Item Number Column.

Example:

Bid Item No.	Description	Unit	S-3	Total
*	Retro-reflective Pavement Markers	EA	69	69
*	Directional Arrows, Painted	EA	9	9
*	Solid Traffic Stripe (6”) (White)	NM	0.372	0.372

- Add the following note at the bottom of the Tabulation of Quantities sheet:
  - \* These quantities are paid for under Painted Pavement Markings (Final Surface), Lump Sum - Item No. 710-90. The quantities shown are for one application; see Specification Section 710 for the number of applications required.

- **Roadway Plans – Summary of Quantities Sheet - Pay Item Notes**
  - Add the following note:
    - 710 - The totals shown on the Summary of Roadway Pay Items are for painted pavement markings used for Maintenance of Traffic.
- **Roadway Plans – Summary of Pay Items Sheet**
  - Trns-port file - Category 0200
    - Use the appropriate 710 Paint pay items and pay item 102-78 for Temporary Reflective Pavement Markers to pay for pavement markings used for Maintenance of Traffic.
    - (Verify pay items and quantities shown do NOT include markings used on the final surface)
  - Trns-port file - Category 0300
    - Add pay item:
      - 710-90 Painted Pavement Markings (Final Surface) – Lump Sum
    - (Verify pay items 706-3 and all 710 Paint pay items are not shown)
- **Computation Book**
  - Documentation of quantities should be either in the computation book or the plans.

### **FOR LUMP SUM PROJECTS:**

- **Plans**

There is no change, follow existing lump sum guidelines.  
Do not show any pay items or quantities in the plans

### ***Implementation Plan:***

### **Central Office Design:**

Establish the following new pay items April 2003:

710-90	Painted Pavement Markings (Final Surface)	LS
2710-90	<i>Painted Pavement Markings (Final Surface)</i>	<i>LS</i>

Update the appropriate Manuals. The Plans Preparation Manual will be revised to reflect these changes in the January 2004 edition.

**District Design:** Update plans and Trns-port files on applicable projects beginning with the January 2004 letting.



**Specifications:** Specifications will be available for the January 2004 letting.

**Design Contact Person** - Cheryl Adams 850-414-4327 SC 994-4327

***Approved:*** Brian Blanchard \_\_\_\_\_ Date \_\_\_\_\_  
State Roadway Design Engineer

***Approved:*** Ananth Prasad \_\_\_\_\_ Date \_\_\_\_\_  
State Construction Engineer

***Approved:*** Phillip “Greg” Davis \_\_\_\_\_ Date \_\_\_\_\_  
State Estimates Engineer

***Approved:*** Sharon Holmes \_\_\_\_\_ Date \_\_\_\_\_  
State Maintenance Engineer

***Approved:*** Duane F. Brautigam \_\_\_\_\_ Date \_\_\_\_\_  
State Specifications Engineer